Rhodora

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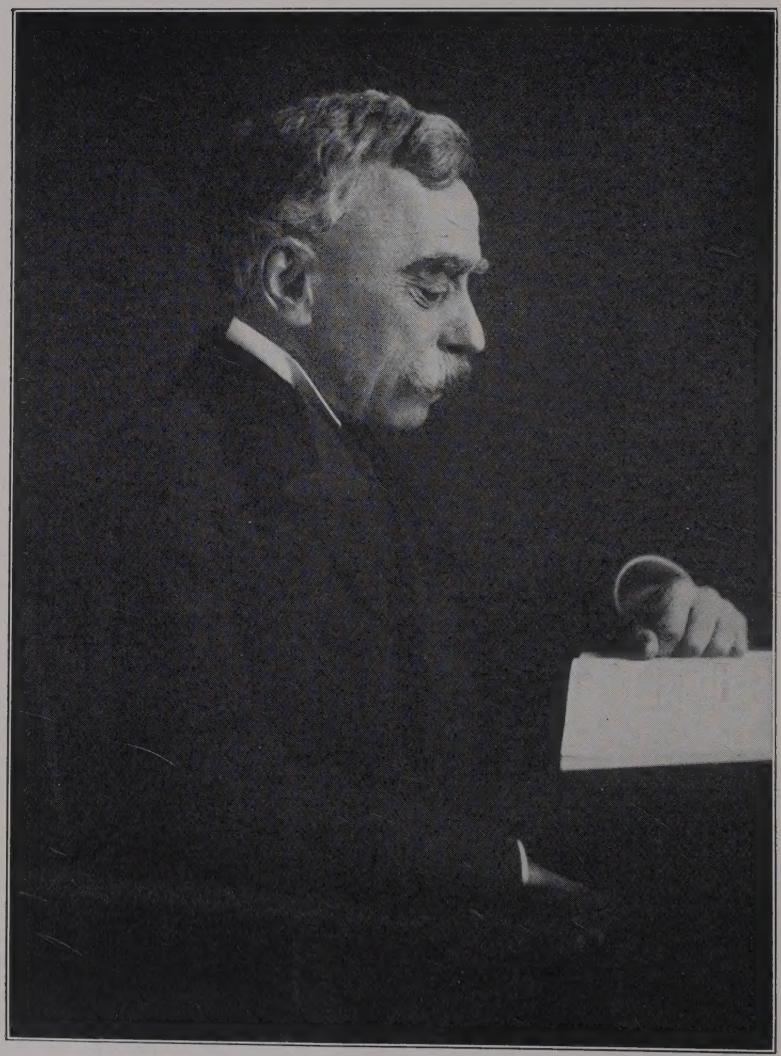

Yours, truly,
W. E. Harbor.

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JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 22. January, 1920. No. 253.

WILLIAM GILSON FARLOW.

L. W. Riddle.

(With portrait[1].)

Dr. William G. Farlow was born in Boston, December 17, 1844, and died in Cambridge, June 3, 1919. His father, John S. Farlow, was a successful Boston business man, and at the same time a lover of nature, of books, and of music. The library of the Massachusetts Horticultural Society is largely indebted to his interest and generosity. It was from his father that Dr. Farlow inherited or acquired the dominant interests of his life. His mother was Nancy Wight Blanchard, the daughter of an old Massachusetts family. In 1858, the Farlow family moved to Newton, where John Farlow had purchased an estate of such an extent as would enable him to satisfy his love for plants. The house stood in the midst of gardens and orchards, in what was then the country. Here the subject of this sketch passed the next four years, and the family tradition runs that his discovery of Hepatica in the neighboring woods proved to be the stimulus which awakened the desire for a knowledge of plants. At all events, his interest in Natural History was already established when he entered Harvard College in 1862. During his college days he took the courses offered by Professor Asa Gray, and served as president of that venerable institution, the Harvard Natural History Society.

[1] For permission to use the plate from which this portrait of Prof. Farlow is printed Rhodora is indebted to the courtesy of the editorial management of the Harvard Graduates' Magazine.

Upon graduation from college, with the class of 1866, he decided to make Botany his life-work. This subject was still, at least in America, chiefly the pursuit of ministers, such as the Rev. Francis Wolle and the Rev. M. A. Curtis, or of practitioners of medicine. Acting upon Dr. Gray's advice "to study medicine first because the possibility of gaining a living by Botany was so small that one should always have a regular profession to fall back upon," he spent the next four years in the Harvard Medical School, receiving the degree of M. D. in 1870. Dr. Gray, who already appreciated Dr. Farlow's genius, at once gave him an assistantship. This enabled him to begin that study of the lower plants which was to be his main interest for nearly fifty years. From 1870 to 1872, he worked on the collections of cryptogams at the Gray Herbarium and gave some instruction in Cryptogamic Botany. This work, however, made him realize the deficiencies in his knowledge, and in 1872 he decided to go to Europe for further study, there being no opportunities at that time in the United States.

In 1872, Anton DeBary had recently opened a laboratory for advanced students in the reorganized University of Strasburg. DeBary had reached the height of his fame through his researches on the development and methods of reproduction of the Algae and Fungi. A brilliant band of students gathered around him, and it is fair to say that Dr. Farlow was one of the most gifted of these. From DeBary, Dr. Farlow acquired as thorough a knowledge of the fungi as it was possible to get at that time, and he also received valuable training in the technical manipulation of material, which must always play an important part in the study of micro-organisms. From Strasburg he went to Geneva to study the lichens with J. Mueller; and to Antibes on the Mediterranean coast of France, where he had the rare privilege of studying marine algae with Bornet and Thuret. In addition to these months of study, he travelled extensively, meeting many noted botanists, with whom he afterwards maintained a lasting friendship and an active correspondence. His letters written to Dr. Gray during this period are full of interesting comments on the botany and the botanists of the day.

The reaction against the almost exclusive attention to systematic botany during the century following Linnaeus was in full swing in Germany. Like most such movements it was being carried too far there, just as it has been in many of our American institutions during

more recent years. In one letter, Dr. Farlow writes to Dr. Gray: "Systematic Botany is entirely discouraged [in DeBary's laboratory] * * * development and microscopic anatomy exclude everything else." And in another letter; "I have been to see Prof. Pfitzer, who is a pupil of Hanstein, the man who doesn't think it of any consequence to study the forms of common plants, but much better to mope over the 'Vegetationspunkt.' Dr. Hillebrand and I agree that, at the rate the Germans are going on, in twenty years there won't be a botanist in Germany who knows anything about the flora of the country." Dr. Farlow, with the admirable judgment that always characterized him, saw the value of the new studies of development, but without losing sight of the continued importance of systematic botany. He appreciated also the difficulties of the latter subject as applied to the lower plants. In a letter written in May, 1874, to Dr. Gray, he says: "As to the naming common toadstools, they are none the easier to name because they are common. You are certainly not very modest in your demand that I shall be able to name fungi, algae, and lichens. When you consider that there is not a single botanist in Europe who can do that, it is not very likely at my age that I shall be able to do it."

During these two years, Dr. Gray's friendship was actively shown in many ways. In one letter, Dr. Farlow writes: "I cannot express my obligations for the expressions of interest in me contained in your last letter." And it was at least partly due to Dr. Gray that, upon his return from Europe in the summer of 1874, Dr. Farlow received an appointment as assistant professor of Botany at Harvard, an appointment which was followed by that of professor of Cryptogamic Botany in 1879, a position that he held during the rest of his life. Through his training, his genius, and his industry, bearing fruit in a series of important papers during the decade from 1875 to 1885, it may be said without exaggeration that Dr. Farlow created the science of Cryptogamic Botany in America. It will be worth while, therefore, to dwell somewhat upon this period of his life.

He has left a record of his own inclinations in 1870 in these words: "Had it been possible for me to do as I pleased, I should never have studied anything but marine algae." Previous to the date mentioned, the only important work on the seaweeds of our coast had been that of Harvey, published between 1852 and 1858. That Dr. Farlow

lost no time in following his inclination is shown by his publication a year after his return from Europe of "A list of the Marine Algae of the United States."[1] This was merely an annotated list but it was followed in 1881 by the "Marine Algae of the New England and the adjacent coast" which included keys, descriptions, critical notes, and plates. This still remains our only scientific manual of the seaweeds of this region.

At the same time, the fresh-water algae received his attention and he was one of the first to recognize the practical importance of these plants in connection with water-supplies, as shown by his paper entitled: "Remarks on some Algae found in the Water-Supplies of the City of Boston."[2] To the Annual Report of the Massachusetts State Board of Health for 1879, he contributed a longer paper on the same subject. This has been reprinted by Prof. G. C. Whipple as "one of the classics on state sanitation."[3] The paper is not a technical one but is intended for general reading and is written in a clear style and enlivened by some characteristic passages. It was the period when, through the work of Pasteur and Koch, the germ-theory of disease was becoming prominent. The public was easily alarmed by anything that suggested germs. This led Dr. Farlow to say: "It is desirable that all who, in any sense, have charge of the public health, should have some familiarity with the common forms of plants likely to pollute drinking-water; because, as the matter now stands, the public are at the mercy of any person who, armed with a compound microscope and a supply of Latin and Greek names, chooses to alarm the neighborhood by the announcement of the appearance in the water-supplies of plants whose injurious nature is supposed to be in direct proportion to the length and incomprehensibility of their names."

Probably no field of Cryptogamic Botany is attracting more attention and more workers at the present time than the study of the fungous diseases of economic plants. In this field, also, Dr. Farlow was a pioneer. A paper in 1875 on "The Potato Rot"[4] was based on the first of a series of important studies, in connection with which the fungi were investigated both from the practical and the system-

[1] Proc. Amer. Acad. Arts and Sci. **10**: 351–380. 1875.
[2] Bull. Bussey Inst. **2**: 75–80. 1877.
[3] G. C. Whipple, State Sanitation, **2**: 39–46. Harvard Univ. Press. 1917.
[4] Bull. Bussey Inst. **1**: 319–338. 1875.

atic point of view. These studies resulted in the publication of a number of monographs, and Dr. Farlow came to be recognized as our foremost authority not only on the algae, but also on the fungi.

It is appropriate that the pages of RHODORA should record such early contributions to the study of "the local flora" as his "List of Fungi found in the vicinity of Boston"[1] in which were recorded 363 species, all of his own collecting, and supplemented by valuable critical notes; and his "Notes on the Cryptogamic Flora of the White Mountains,"[2] which in addition to enumerating a considerable list of interesting species, gave descriptions of eight new species.

Dr. Farlow's constant interest in the flora of New England led to his taking a prominent part in the movement to organize the New England Botanical Club. The first meeting was held at his house. He was unanimously elected president, and served in that capacity at all the meetings of the Club held during the first year of its existence.

While possessed of an unusual technical knowledge, Dr. Farlow was always ready to present his subject in a way that would make it generally available. But he never sacrificed accuracy to popularity. When the popular interest in mushrooms was awakened about 1894, Dr. Farlow contributed to Garden and Forest some "Notes for Mushroom-Eaters," a paper which was (to use his own words) "freed from the technicalities familiar to the expert botanist, although accurate as far as it goes."

During all these years, the instruction of students also claimed his attention. As a teacher his influence was great. His mastery of his subject, the clearness and liveliness with which he presented it, and his obvious human qualities, could not fail to win the interest of his students. Even as the students in DeBary's laboratory at Strasburg went out inspired and trained to do creative work in many fields of Botany, so as the years went by a considerable number of the men who studied with Dr. Farlow have contributed to the development of science in America.

In 1896, Dr. Farlow retired from the instruction of undergraduates, but continued to direct the work of such graduate students as desired his assistance. During the last twenty-three years of his life, his time was fully occupied with three large undertakings: a bibliograph-

[1] Bull. Bussey Inst. **1**: 430–439. 1876, and **2**: 224–252. 1878.
[2] Appalachia **3**: 232–251. 1884.

ical index of North American fungi, illustrations of mushrooms, and the development of his already great herbarium. The bibliographical index had been started before 1880, and was intended to include all references to North American species of fungi. It was made in the form of a card catalogue, with the idea of ultimate publication. The magnitude of the undertaking may be realized when it is stated that at the time of Dr. Farlow's death the index included approximately 350,000 references. A first part of the index was published in 1905. Then the botanical congresses held at Vienna in that year and at Brussels in 1910 led to the postponement of further publication in the hope that the nomenclature of the fungi would be put upon a stable basis which might be employed in the index. For the illustrations of mushrooms, Dr. Farlow had employed the assistance of exceptionally skilful botanical artists and more than one hundred colored plates of great beauty and scientific value had been prepared and printed. It is to be hoped that the publication of both of these works may be possible in the near future.

Dr. Farlow's keenness as a collector, his exhaustive knowledge of cryptogams, his wide acquaintance with botanists in all parts of the world, and his financial resources, all contributed to the building up of the most valuable cryptogamic herbarium and library in America. Some account of the former was published in RHODORA (**3**: 242. 1901). The large collections which are of special interest to New England botanists are Dr. Farlow's own collection of algae and fungi, the Edward Tuckerman herbarium of lichens, the Faxon Sphagna, and the moss-herbaria of T. P. James and of the late Dr. George G. Kennedy. Dr. Farlow's familiarity with the lower plants was only equalled by his knowledge of the literature of the subject. His letters from Europe in 1872–74 express his desire to collect a library in his special field, and mention books that he was seizing the opportunity to buy. Of the richness of his library in recent years, only those can judge who have had the privilege of access to it. All botanists will rejoice that both herbarium and library have been left to Harvard University and that they are to bear the appropriate name of "The Farlow Herbarium and Reference Library of Cryptogamic Botany."

The recognition of Dr. Farlow's eminence in his profession was wide-spread both in America and in Europe. The honorary degree of LL. D. was conferred on him by Harvard in 1896, by the Univer-

sity of Glasgow in 1901, and by the University of Wisconsin in 1904. In May, 1907, he attended the celebration at Upsala, Sweden, of the 200th anniversary of the birth of Linnaeus, and received the honorary degree of Ph. D. He was a member of a large number of learned societies and academies, in several of which he held the office of president. In 1876, J. Agardh, of the University of Lund, named in his honor, Farlowia, a genus of Red Algae found on our northwest coast. In 1883, Saccardo proposed the same name for a genus of hysteriaceous fungi, and upon the discovery that the name was already in use, substituted for it, in 1891, the name Farlowiella. No attempt has been made to list the considerable number of species of algae, fungi, and lichens, named in his honor.

If one were asked to mention Dr. Farlow's distinctive characteristics one would certainly speak of his memory, his wit, his versatility, and his kindness.

I may be permitted to give a personal illustration of his memory. In February, 1915, I was working one day at the herbarium on some lichens collected in Switzerland. One minute, black lichen on a rock, I was entirely unable to place. Dr. Farlow looked at it with his lens and handed it back to me without a word, but with a characteristic "h'm." The next morning, however, I received a note from him with the name of the plant which he had collected in California in 1883! His collection was one of the two known records for America, so one can judge of the rarity of the species.

In this account of Dr. Farlow, his botanical activities have naturally been emphasized, but he was much more than a botanist. His wit, which showed itself constantly to those intimate with him, brought him a well-deserved reputation as a speaker at public dinners and at the meetings of the many societies of which he was a member. His address as retiring president of the Botanical Society of America given at Cleveland, January 1, 1913, and published in *Science* (**37**: 79–86) illustrates this characteristic. But the repetition of his stories and "asides" in cold print is inadequate to represent him since it lacks the touch of his personality.

His humor and his wide range of interests made him always welcome in social life. And this life he thoroughly enjoyed both in Cambridge and during his trips to Europe. He was noted for his hospitality even in his bachelor days, and his marriage in 1900 to Miss Lilian Horsford brought into his home a gracious hostess whose

presence made the home more enjoyable than ever to their many friends.

Dr. Farlow's kindness and generosity were so unostentatious that no detailed record can ever be made. But both here and in Europe there are many persons who cherish the memory of what they owe to him. His knowledge and his collections were always at the service of all who were qualified to benefit from them. Soon after his death one of his old students, who has made important contributions to American mycology, wrote to me, saying: "I can hardly realize that his inspiring and sympathetic correspondence is at an end." Nothing can speak more forcibly of his relations to those around him than the fact that the "youngest" member of the staff of the Cryptogamic Herbarium had been with Dr. Farlow for seventeen years.

We who today work in the laboratories where he taught and in the herbarium which he created still feel keenly the consciousness of his personality, and still we look up at intervals expecting to hear his quick steps and his rapid speech, with some enlivening bit of humor or some penetrating and fruitful comment on the specimens which we are studying.

CAMBRIDGE, MASSACHUSETTS.

VARIATIONS IN LACTUCA CANADENSIS.

K. M. Wiegand.

The treatment of *Lactuca canadensis* L. and its forms in our various manuals seems not to accord exactly with what is found in the field. The writer has attempted a different classification of these variations, and the result is presented in the accompanying key. In floral and fruit characters *L. canadensis* is remarkably constant. It is only in the leaves that great fluctuation is found. Here variation is marked, as it often is in the ligulate *Compositae.*

The var. *typica* and its three following varieties are not equally related. The last three varieties are phases of one polymorphic subdivision of the species. This subdivision is to be set off against var. *typica.* These two primary divisions intergrade but little, and have slightly different, though overlapping ranges, the typical form not extending so far south. In the second group the varieties and forms show abundant intergradations. In the entire-leaved varieties, the lobed leaves have been wholly replaced, while in the obovate toothed-leaved variety the oblanceolate or obovate toothed basal leaves, frequently found in var. *integrifolia,* have spread over the whole plant. It is as though in one case the leaves were pushed toward the base of the stem through the multiplication of the upper entire leaves, while in the opposite case the lower leaves have entirely replaced the upper. The lobed leaves immediately below the entire ones in var. *latifolia* have broadly falcate divisions, while the lowermost on the same plant usually have the divisions obovate, subtruncate and toothed. When these lowest leaves are entirely eliminared through the multiplication of the entire leaves, the only divided leaves remaining are those with broadly falcate divisions. Unless this relation is understood the grouping together under one varietal head of plants apparently so dissimilar may be a trifle confusing.

The description of *L. canadensis* given by Linnaeus leaves the impression that he had in hand a form with unlobed leaves, since a character so striking would naturally have been mentioned. The species was based on a specimen of Kalm's. This Dr. Gray saw, and at that time made the note that it was the *L. elongata* of authors. Since Dr. Gray recognized a species *integrifolia,* it is to be presumed

that the Kalm specimen had divided leaves. On this basis the writer is using the name *L. canadensis* L. as synonymous with and antedating *L. elongata* Muhl.

L. Steelei Britton, like *L. Morssii* Robinson, combines characters of *L. canadensis* and *L. spicata*. These are probably hybrids of the two species last mentioned. The achene in both is 3–5-ribbed and tapers to a short stout beak as in *L. spicata*, but the pappus in both is pure white. However, the leaves in the various specimens fluctuate in form between the two species.

a Leaves with linear-falcate, usually entire lobes; upper unlobed leaves (if any) linear or linear-lanceolate *b*
  b Leaf-base sagittate or auriculate.....var. *typica.*
  b Leaf-base tapering, not sagittate.....f. *angustipes.*
a Leaves with broadly falcate, or obovate and obliquely truncate, entire or toothed lobes; upper leaves similar or unlobed and lanceolate or ovate-lanceolate, rarely oblanceolate or obovate, entire or rarely toothed *c*
  c Leaf-base sagittate, clasping.....var. *latifolia.*
  c Leaf-base tapering, not sagittate.....f. *exauriculata.*
a Leaves all unlobed, lanceolate, oblong, oblanceolate or obovate, entire or denticulate, the lowest sometimes shallowly lobed *d*
  d Cauline leaves lanceolate to ovate-lanceolate, entire or rarely toothed *e*
    e Leaf-base sagittate, clasping.....var. *integrifolia.*
    e Leaf-base tapering, not sagittate.....f. *angustata.*
  d Cauline leaves oblanceolate or obovate, usually toothed *f*
    f Leaf-base sagittately clasping.....var. *obovata.*
    f Leaf-base tapering, not sagittate.....f. *stenopoda.*

L. CANADENSIS var. **typica** var. nov. *L. canadensis* L. Sp. Pl. ed. 1, ii. 796 (1753). *L. elongata* Muhl. in Willd. Sp. Pl. iii. 1525 (1804). *L. elongata* α *longifolia* T. & G. Fl. N. A. ii. 496 (1843). *Sonchus pallidus* Willd. Sp. Pl. iii. 1521 (1804). *L. canadensis* Robinson & Fernald in Gray's Man. ed. 7. 866 (1908) in part.—Foliorum segmentis lineari-falcatis plerumque integris, basi sagittatis amplexicaulibus; foliis superioribus rariter elobatis et linearibus vel anguste lanceolatis.—Quebec and Prince Edward Island to Saskatchewan, south to Massachusetts, New York, Illinois and Missouri; also occasionally on the Pacific Coast where probably introduced.

Var. TYPICA forma **angustipes** f. nov., foliis basi angustatis nec sagittatis nec auriculatis.—A sporadic form seen from Central New York, but probably occurring elsewhere. TYPE SPECIMEN: Sheldrake, Cayuga Co., New York, 1919, *Eames & Wiegand*, in Herb. New York State College of Agriculture.

Var. LATIFOLIA O. Kuntze Rev. Gen. i. 349 (1891). *L. elongata* Ell. Bot. S. C. & Ga. ii. 252 (1822). *L. canadensis* Robinson & Fernald in Gray's Man. ed. 7. 866 (1908) in part.—Prince Edward Island to Wisconsin, south to Florida and Oklahoma. A common form in the Middle Eastern States.

Var. LATIFOLIA forma **exauriculata** f. nov., foliis basi angustatis nec sagittatis nec auriculatis.—Seen from Massachusetts, Connecticut, Central New York and Florida. TYPE: Wenham, Mass., *C. E. Faxon*, in Gray Herb.

Var. INTEGRIFOLIA (Bigelow) Gray Man. ed. 5. 281 (1869). *L. integrifolia* Bigelow Fl. Bost. ed. 2. 287 (1824). *L. sagittifolia* Elliott Bot. S. C. & Ga. ii. 253 (1822), and Gray's Man. ed. 7. 867 (1908). *L. elongata* β *integrifolia* T. & G. Fl. N. A. ii. 496 (1843). *L. canadensis* var. *montana* Britton in Britton & Brown Ill. Flora N. U. S. & Can. iii. 274 (1898).—Prince Edward Island to Wisconsin, south to South Carolina, Illinois, Oklahoma and Nebraska.

Var. INTEGRIFOLIA forma **angustata** f. nov., foliis basi angustatis nec sagittatis nec auriculatis.—A sporadic form seen from Pemberton, Massachusetts, Southington, Connecticut, Delaware, central New York, and a doubtful specimen from Illinois. TYPE: Southington, Connecticut, 1892, *C. H. Bissell*, no. 333, in Gray Herb.

Var. **obovata** var. nov. *L. integrifolia* Robinson & Fernald in Gray's Man. ed. 7. 866 (1908). Foliis omnibus oblanceolatis vel obovatis elobatis vel infimis paullo lobatis; margine integris vel plerumque plus minusve denticulatis; basi sagittatis.—Maine to Indiana and Nebraska, south to New Jersey and Oklahoma. TYPE: Maugus Hill, Wellesley, Mass. 1897, *E. F. Williams*, in Gray Herb.

Var. OBOVATA forma **stenopoda** f. nov., foliis basi angustatis nec sagittatis nec auriculatis.—Specimens seen from Connecticut and Oklahoma. TYPE: valley of Stink Creek near Tonkana, Kay County, Oklahoma, 1913, *G. W. Stevens*, no. 1812, in Gray Herb.

CORNELL UNIVERSITY, Ithaca, New York.

SOME VARIATIONS OF CARDAMINE PRATENSIS IN AMERICA.

M. L. FERNALD.

To one who is familiar with the pink-petaled Cuckoo Flower which is frequently naturalized on lawns and in meadows from Newfoundland to New England an excursion, such as the recent field-trip of the New England Botanical Club, to Berkshire County, brings a great surprise. The familiar pink-flowered plant about Boston grows, as stated, in lawns or grassy meadows and is obviously a recent introduction. This plant is also found in lawns in Berkshire County; but in the deepest woodland swamps, in the quaking and

almost inaccessible margins of marl- or mud-ponds or in cold bogs occurs an unquestionably indigenous plant with milk-white petals. This is the plant which throughout most of British America and the northern States is passing as *Cardamine pratensis*. This indigenous plant with white petals occurs in the habitats above described or on cold springy spots from Ungava to the mouth of the Mackenzie, south, chiefly in calcareous regions, to Newfoundland, Anticosti Island, the Gaspé Peninsula, Berkshire Co., Massachusetts, perhaps northwestern Connecticut, northern New Jersey, central and western New York, northern Ohio, northern Indiana, Minnesota and northern British Columbia; and it is noteworthy that the keen observer, Professor John Macoun, should have appended to the list of stations in his *Catalogue of Canadian Plants* the comment: "The Canadian form is usually more slender than the European, and always white flowered."[1]

Color of petals alone is usually a very unsafe character, but in this case it is certainly significant that our indigenous plant should so generally have white, while the true *Cardamine pratensis* of Eurasia, the plant recently introduced into the Northeast and selecting drier habitats than the native, has pink petals. Typical *C. pratensis* as generally defined by European authors has the leaflets of the basal rosette, or at least the terminal leaflets, distinctly crenate or dentate with several teeth, while the middle and upper cauline leaves have the linear to oblong leaflets not abruptly contracted at base. In our white-flowered indigenous plant, on the other hand, the leaflets of the rosette-leaves are most commonly entire, although they may occasionally be shallowly toothed, while the lateral leaflets of the middle and often of the upper cauline are usually oblanceolate to elliptic and distinctly contracted to petiolules. In these characters our plant entirely agrees with *C. pratensis*, var. *palustris* Wimmer & Grabowski,[2] at least as identified by O. E. Schulz in his *Monographie der Gattung Cardamine*. Several European specimens thus identified by Schulz are inseparable from our plant and the essential characters of the variety as given by Schulz are satisfactory: "folia caulina . . . foliola elliptica vel oblonga, ± integra, lateralia manifesto . . . petiolulata . . . Petala plerumque alba."[3] The plant

[1] Macoun, Cat. Can. Pl. i. 41 (1883).
[2] Wimm. & Grab. Fl. Siles. ii. pt. 1, 266 (1829).
[3] O. E. Schulz, Engler's Bot. Jahrb. xxxii, Heft 4, 533 (1903).

has had various names indicative of its habitat: *C. palustris* Peterm., *C. paludosa* Knaf, *C. fontinalis* Schur and *C. pratensis,* var. *fossicola* Godet. In contrast with the usually inundated habitats of this white-flowered variety we have the meadow- and turf-habitats of true *C. pratensis,* habitats well indicated by its name; and in Bailey's *Standard Cyclopedia of Horticulture* the latter plant is said to be "also useful in drier places, as in rockeries." A few sheets in the Gray Herbarium of the indigenous plant have been referred by Schulz to var. *dentata* (Schultes) Neilreich, but whether or not the latter variety is distinguishable in Europe it is certain that our American white-flowered bog plant cannot be satisfactorily regarded as two varieties. Schulz further maintains, in his discussion of var. *palustris,* that Kerner had been in error in considering that var. *palustris* had a distinct range from that of typical *C. pratensis,* saying "Eine besondere geographische Verbreitung besitzt demnach die Pflanze nicht, wie KERNER in Schedae ad Fl. Exs. Austro-Hung. III. 74 (1884) annahm." As an indigenous plant in America, true *C. pratensis* seems to occur only in Alaska. It is therefore clear that on this continent at least the two plants have decidedly different ranges.

In the Arctic regions, extending south with us to the Aleutian Islands and to northeastern Labrador is a low extreme with usually pink petals and with the leaflets of the basal leaves linear to elliptic. This is var. *angustifolia* Hook.

One other variation of *Cardamine pratensis* demands a special comment. This is the pink-flowered plant with "double" flowers, an old-fashioned garden plant which in eastern Massachusetts has become abundantly naturalized along Stony Brook in Middlesex County. This is forma *plena* Beck von Mannagetta. Although considered merely a form of true *C. pratensis* with numerous petals it is noteworthy that the plant now naturalized along Stony Brook, as well as such European specimens as the writer has seen, has the leaflets unusually broad and more inclined to be petiolulate.

Briefly summarized, these variations may be distinguished as follows:

Lateral leaflets of the basal leaves with ovate to reniform blades: the terminal obovate to reniform, 0.35–3 cm. long: stem 1.5–5 dm. high.
Terminal leaflet of basal leaves distinctly crenate or dentate, with 3–9 teeth: petals pink.
Petals in a single series: lateral leaflets of the middle and upper cauline leaves linear to oblong, sessile or nearly so. . . . *C. pratensis* (typical).

Petals very numerous: lateral leaflets of the middle and upper cauline leaves oblanceolate to oblong-obovate, petiolulate
C. pratensis, forma *plena*.
Terminal leaflet of the basal leaves entire or obscurely toothed; lateral leaflets of the middle and upper cauline leaves usually with a distinct petiolule: petals white.....*C. pratensis*, var. *palustris*.
Lateral leaflets of the basal leaves with linear to oblong blades: the terminal oblong to ovate, 1–6 mm. long: stem 0.7–2.5 dm. high.
C. pratensis, var. *angustifolia*.

C. PRATENSIS L. Sp. Pl. ii. 656 (1753); for detailed synonymy see O. E. Schulz, Engler's Bot. Jahrb. xxxii. Heft 4, 524 (1903).—Eurasia, Alaska; and as an introduced plant in lawns and meadows, Newfoundland to New England.

Forma PLENA Beck von Mann. Fl. Nied. Oesterr. i. 454 (1890).—Thoroughly naturalized in wet meadows along Stony Brook, Middlesex Co., Massachusetts, first collected in 1886 (*W. W. Nolen*).

Var. PALUSTRIS Wimm. & Grab. Fl. Siles. ii. pt. 1, 266 (1829). *C. pratensis*, var. *oblongifolia* Peterm. Fl. Lips. 483 (1838). *C. palustris* Peterm. in Rabenh. Bot. Centralbl. i. 47 (1846). *C. paludosa* Knaf, Flora, xxix. 293 (1846). *C. pratensis*, var. *fodinarum pendula* Schur, Verh. Mitt. Siebenb. Ver. Nat. iv. 61 (1853). *C. grandiflora* Hallier. Bot. Zeit. xxiv. 209 (1866). *C. fontinalis* Schur, Enum. Pl. Transsilv. 48 (1866) acc. to Schulz. *C. pratensis*, var. *fossicola* Godet, Suppl. Fl. Jura, 13 (1869). *C. pratensis*, var. *dentata* O. E. Schulz, l. c. as to American plant, probably not var. *dentata* (Schultes) Neilr. Fl. Nied. Oest. ii. 718 (1859).—Eurasia; Ungava to Mackenzie, south in shallow water, bogs, springs and swampy woods to Newfoundland, Anticosti Island and Gaspé and Bonaventure Cos., Quebec, Berkshire Co., Massachusetts, ? Litchfield Co., Connecticut, Morris Co., New Jersey, central and western New York, northern Ohio, northern Indiana, Minnesota and northern British Columbia.

Var. ANGUSTIFOLIA Hook. Fl. Bor.-Am. i. 45 (1829). *C. polemonioides* Rouy & Fouc. Fl. France, i. 234 (1893).—Arctic regions, south to northeastern Labrador (Rama) and the Aleutian Islands.

Schulz cites a specimen from Niles, Michigan, collected by *Wm. Boott* as belonging here. The plant, however, has the basal leaves and the white petals of var. *palustris* and is apparently an unusually small-leaved extreme of that. Var. *angustifolia* has either white or purplish petals, Professor John Macoun making the statement that "All the arctic specimens have purple flowers" (Cat. Can. Pl. i. 486).

GRAY HERBARIUM.

A NEW SPECIES OF SPERGULARIA.

K. M. Wiegand.

In the central portion of New York State, on the plain lying between Lake Ontario and the plateau region farther south, are found numerous salt springs which render the soil in the vicinity decidedly brackish. In a lesser degree the influence of the salt extends through the swamps and waters of that whole region. To this factor is largely due the very interesting assembly of coastal plants found in Central New York. Some are distinctly maritime, as *Ruppia maritima, Najas marina, Chenopodium rubrum, Leptochloa fascicularis* and *Ranunculus Cymbalaria,* while others are coastal in nature but less distinctly maritime, as *Hibiscus Moscheutos, Phragmites communis, Listera australis, Potamogeton filiformis* and *Carex alata.* In desiccated places on the salt flats and bordering the salty pools Spergularias occur often in considerable abundance. Plants of this genus are found also around the salt works at Syracuse, N. Y., about thirty miles distant toward the east. In a paper on the Spergularias of northeastern North America, Fernald and Wiegand (Rhodora xii. 157, 1910) noted that the species at Syracuse was *S. marginata* (DC.) Kit. not known elsewhere from North America. Since that time the writer has collected both *S. marginata* and *S. salina* at Syracuse. He was therefore greatly surprised to find that the Spergularia at the stations farther west was not the same. A study of the material in the Gray Herbarium has shown that these plants are unlike any species in that collection from America, and a diligent search failed to show any similar foreign species. It is possible that they represent a local endemic species in this region, though this is not usual in a glaciated country like New York State. It has seemed desirable to call the attention of botanists to this plant in the hope that it may be found elsewhere. The species may be described as follows:

S. **alata** sp. nov. magnitudine habituque *S. leiospermae* (Kindb.) Schmidt et *S. salinae* J. & C. Presl simillima, verisimiliter annua vel biennis glabra vel in pedunculis et rarissime etiam in internodiis superioribus sparse glandulari-pubescens; stipulis late deltoideo-ovatis acutis; bracteis foliaceis; petalis quam sepala brevioribus roseis; staminibus 4–6; sepalis ovatis vel oblongo-ovatis plerumque obtusis quam capsula magna (5–7 mm. longa) dimidio vel saltim

quarta parte brevioribus; pedicellis infimis maturitate 7–14 mm. longis; seminibus 0.7–0.8 mm. longis irregulariter ovalibus saepissime omnibus alatis, alis tenuibus erosis.—Brackish soil about salt springs and salt ponds in Central New York. Cayuga County; salt pond west of Howland Island, 1917, *Metcalf & Wiegand,* no. 8064, and 1919, *Eames, Randolph & Wiegand,* no. 12005; salt flats east of Montezuma Village, 1916, *Metcalf & Wiegand,* no. 6406 (TYPE in Gray Herb.), and 1919, *Eames, Randolph & Wiegand,* no. 12004.

This plant differs from *S. marginata* (DC.) Kit. in the thinner erose wing of the seeds, in the more glabrous stems, more foliaceous bracts, and probably also in the annual root. From *S. salina* J. & C. Presl it differs in the more glabrous stems, more foliaceous bracts, longer pedicels, larger capsules, and non-papillose, winged seeds. From *S. leiosperma* (Kindb.) Schmidt it may be distinguished by the longer pedicels, larger capsules, and winged seeds. The seeds of the last two species are rarely winged. In appearance the plant most resembles *S. marginata,* probably because of the large capsules and long pedicels.

CORNELL UNIVERSITY, Ithaca, New York.

A CORRECTION.—Through an error, *Littorella uniflora* was reported in the October issue of RHODORA (xxi. 191) as collected at "The Gut," South Hero, Vermont. The plant in question was *Myriophyllum tenellum,* which is occasional in the state according to the Flora of Vermont.—MRS. NELLIE F. FLYNN, Burlington, Vermont.

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